# CLAIMS

1. A light source comprising sidelight type backlight light guide plate (L), wherein

a transmittance angle dependent layer (T1) which transmits normally incident light and reflects obliquely incident light is disposed on one surface of the sidelight type backlight light guide plate (L), and

a reflection plate (R) having a repetitive slope structure is disposed on the other surface of the sidelight type backlight light guide plate (L).

2. The light source according to claim 1, wherein the transmittance angle dependent layer (T1) is a near-infrared reflection filter.

3. The light source according to claim 1, wherein the transmittance angle dependent layer (T1) is a band-pass filter.

4. The light source according to claim 3, wherein the band-pass filter corresponds to a bright-line spectrum of the light source.

5. The light source according to any of claims 2 to 4, wherein the transmittance angle dependent layer (T1) is a vapor deposited multilayer thin film one layer of which is different in refractive index from another.

6. The light source according to any of claims 2 to 4, wherein the transmittance angle dependent layer (T1) is a multi-thin layer laminate made of resin materials one material of which is different in refractive index from another.

7. The light source according to any of claims 2 to 4, wherein the transmittance angle dependent layer (T1) is a stretched multilayer laminate made of resin materials one material of which is different in refractive index from another.

8. A light source comprising a sidelight type backlight light guide plate (L), wherein

a transmittance angle dependent polarizing layer (T2) which transmits a polarized light component of one direction of polarization in normal incident light, and selectively reflects the other polarized light component and reflects obliquely incident light regardless of a direction of polarization is disposed on one surface of the sidelight type backlight light guide plate (L), and

a reflection plate (R) having a repetitive slope structure is disposed on the other surface of the sidelight type backlight light guide plate (L).

9. The light source according to claim 8, wherein the transmittance angle dependent polarizing layer (T2) transmits a circularly polarized light, while selectively reflects a reverse circularly polarized light.

10. The light source according to claim 9, wherein the transmittance angle dependent polarizing layer (T2) comprises at least one cholesteric liquid crystal polymer layer.

11. The light source according to claim 10, wherein the transmittance angle dependent polarizing layer (T2) is a cholesteric liquid crystal band-pass filter.

12. The light source according to claim 8, wherein the transmittance angle dependent polarizing layer (T2) transmits one of linearly polarized lights perpendicular to each other, while selectively reflecting the other thereof.

13. The light source according to claim 12, wherein the transmittance angle dependent polarizing layer (T2) is a multilayer laminate made of polymers having a birefringent anisotropy.

14. The light source according to claim 8, wherein the transmittance angle

dependent polarizing layer (T2) is a polarizing element (A) in which a retardation layer (b) is inserted between at least two reflection polarizers (a) having wavelength bands, overlapped one on the other, of selective reflection of polarized light.

15. The light source according to claim 14, wherein

the reflection polarizer (a) is a circular polarization type reflection polarizer (a1) transmitting circularly polarized light, while selectively reflecting reverse circularly polarized light, and

the retardation layer (b) comprises a layer (b1) having a front retardation (in the normal direction) of almost zero and a retardation of $\lambda/8$ or more relative to incident light incoming at a direction inclined from the normal direction by 30° or more.

16. The light source according to claim 14, wherein

the reflection polarizer (a) is a linear polarization type reflection polarizer (a2) transmitting one of linearly polarized lights perpendicular to each other, while selectively reflecting the other thereof,

the retardation layer (b) comprises a layer (b1) having a front retardation (in the normal direction) of almost zero and a retardation of $\lambda/4$ or more relative to incident light incoming at a direction inclined from the normal direction by 30° or more,

layers (b2) each having a front retardation of about $\lambda/4$ disposed on both sides of the layer (b1), one of the layers (b2) being disposed between the retardation layer (b1) and a corresponding linear polarization type reflection polarizer (a2) and the other of the layers (b2) being disposed between the retardation layer (b1) and another linear polarization type reflection polarizer (a2),

the layer (b2) on the incidence side is arranged at an angle of 45° (–45°) ± 5° relative to the polarization axis of the linear polarization type reflection polarizer (a2) on the incidence side,

the layer (b2) on the emission side is arranged at an angle of –45° (+45°) ± 5° relative to the polarization axis of the linear polarization type reflection polarizer (a2) on the emission side, and

the layer (b2) on the incidence side and the layer (b2) on the emission side are arranged at an arbitrary angle formed between the respective slow axes thereof.

17. The light source according to claim 14, wherein

the reflection polarizer (a) is a linear polarization type reflection polarizer (a2) transmitting one of linearly polarized lights perpendicular to each other, while selectively reflecting the other thereof,

the retardation layer (b) comprises two biaxial retardation layers (b3) each having a front retardation (in the normal direction) of about λ/4 and an Nz coefficient of 2 or more,

the slow axis direction of the layer (b3) on the incidence side is arranged at an angle of 45° (−45°) ± 5° relative to the polarization axis of the linear polarization type reflection polarizer (a2) on the incidence side,

the slow axis direction of the layer (b3) on the emission side is arranged at an angle of −45° (+45°) ± 5° relative to the polarization axis of the linear polarization type reflection polarizer (a2) on the emission side, and

the layer (b3) on the incidence side and the layer (b3) on the emission side are arranged at an arbitrary angle formed between the respective slow axes thereof.

18. The light source according to claim 14, wherein

the reflection polarizer (a) is a linear polarization type reflection polarizers (a2) transmitting one of linearly polarized lights perpendicular to each other, while selectively reflecting the other thereof,

the retardation layer (b)comprises one biaxial retardation layer (b4) having a front retardation (in the normal direction) of about λ/2 and an Nz coefficient of 1.5 or more,

the slow axis direction of the layer on the incidence side is arranged at an angle of 45° (−45°) ± 5° relative to the polarization axis of the linear polarization type reflection polarizer (a2) on the incidence side,

the slow axis direction of the layer on the emission side is arranged at an angle

of −45° (+45°) ± 5° relative to the polarization axis of the linear polarization type reflection polarizer (a2) on the emission side, and

the polarization axes of the two linear polarization type reflection polarizers (a2) are almost perpendicular to each other.

19. The light source according to claim 14, wherein

at least one reflection polarizer (a) is a circular polarization type reflection polarizer (a1) transmitting circularly polarized light, while selectively reflecting reverse circularly polarized light,

at least one reflection polarizer (a) is a linear polarization type reflection polarizer (a2) transmitting one of linearly polarized lights perpendicular to each other, while selectively reflecting the other thereof, and

the retardation layer (b) is a layer (b1) having a front retardation (in the normal direction) of almost λ/4 and a retardation of λ/8 or more for incident light incoming at a direction inclined from the normal direction by 30° or more.

20. The light source according to any of claims 8 to 19, wherein an optical layer (D) having a function to cancel polarization of light reflected by the transmittance angle dependent polarizing layer (T2) is disposed between the transmittance angle dependent polarizing layer (T2) and the sidelight type backlight light guide plate (L) and/or between the sidelight type backlight plate (L) and the reflection plate (R).

21. The light source according to claim 20, wherein the optical layer (D) having polarization canceling ability is placed on a surface of the repetitive slope structure of the reflection plate (R).

22. The light source according to claim 20 or 21, wherein the optical layer (D) having polarization canceling ability is a retardation plate.

23. The light source according to any of claims 1 to 22, wherein an average

slope angle $\theta_2$ of the repetitive slope structure of the reflection plate (R) disposed on one surface of the sidelight type backlight light guide plate (L) has the following relation relative to a peak angle $\theta_1$ in an emitting light direction of the sidelight type light guide plate (L):

$$\theta_2 = (\theta_1/2) \pm 10°.$$

24. A transmission type liquid crystal display at least comprising: the light source according to any of claims 1 to 23; a liquid crystal cell; and a polarizing plate disposed on both sides of the liquid crystal cell.